

The following account of the appropriation of the sum of £5000, placed by Her Majesty's Government, in five annual sums of £1000 each, in the years 1850 to 1854 inclusive, at the disposal of the Royal Society, to be employed in aiding the promotion of Science in the United Kingdom, has been presented to the Treasury, and is here printed for the information of the Fellows, by direction of the President and Council.

*A. Appropriation of the Government Grant of £1000 in the year 1850.*

1. For the publication of the Observations made at the Armagh (private) Observatory for the re-observation of Bradley's Stars; the work so published to be the property of Her Majesty's Government ..... £350

The printing of this work is still in progress, and will shortly be completed.

2. For the publication of Vol. I. of the Catalogue of Ecliptic Stars observed at the Markree (private) Observatory; the work so published to be the property of Her Majesty's Government ..... 150

This work has been printed; and the greater part of an impression of 500 copies presented, in the name of the British Government, to public institutions at home and abroad, and to individuals cultivating Astronomy in this and other countries, under the direction of a committee consisting of Sir John Herschel, the Astronomer Royal, and the Superintendent of the Nautical Almanack. The remainder of the impression is on sale at a low price; the proceeds to be credited to Her Majesty's Government.

3. To Charles Brooke, Esq., to be employed in the construction of an instrument for the autographic registry of the variations of the terrestrial magnetic force corrected for temperature ..... 100

This instrument was completed and exhibited in the Great Industrial Exhibition for 1851.

4. To T. Wharton Jones, Esq., to be employed in assisting him in investigations on inflammation . . . . . £100

These investigations were in continuation of an inquiry in which Mr. Jones had been for some time engaged, and for which he had obtained, in 1850, the Triennial Prize of £300, founded by Sir Astley Cooper. Their continuation has led to further publications in the Philosophical Transactions and in the Medico-Chirurgical Transactions, and is still in progress.

5. To Professor Owen, to have drawings made of undescribed or unfigured parts of the skeleton of the Megatherium. 100

The drawings have been made and are deposited at the Royal Society, accompanied by a memoir drawn up by Professor Owen, part of which has been published in the Philosophical Transactions, and the remainder is now in course of publication.

6. To Lieut.-Col. Sabine, for the purchase of magnetical and meteorological instruments of a new construction for trial of their merits at the Kew Observatory. The instruments to be the property of Her Majesty's Government . . . 100

These instruments were purchased and their merits examined at the Kew Observatory: the results of the examination have been published in the Transactions of the British Association.

7. To Dr. Stenhouse, to assist his researches into the chemical relations subsisting amongst the various genera of plants . . . . . 100

This grant produced a valuable paper "On the Action of Nitric Acid on various Vegetables," which was published in the Philosophical Transactions; and the full amount of the grant was subsequently placed again by Dr. Stenhouse at the disposal of the Committee, and became the subject of a fresh appropriation in 1853. —————

Total sum appropriated in 1850. . . . £1000

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*B. Appropriation of the Government Grant of £1000 in 1851.*

1. To Dr. Thurnam, to assist in procuring exact drawings of crania of early British races ..... £50  
 The drawings have been made, and are deposited with an accompanying memoir at the Royal Society.
2. To Professor Stokes, for experiments to determine the index of friction in different gases ..... 175  
 These experiments are in progress at the Kew Observatory under Professor Stokes's direction.
3. To Dr. Hofmann, for a continuation of his investigations respecting organic bases ..... 100  
 These investigations were in continuation of researches of which the results were published in the Philosophical Transactions, and for which a Royal Medal was awarded. They are regarded by chemists as extremely important, and are still in progress.
4. To the Astronomer Royal, for the reduction and publication of the late Rev. T. Catton's Astronomical Observations. 50  
 These observations, extending from 1791 to 1832, have been reduced, and the results published in the Transactions of the Royal Astronomical Society.
5. To John F. Miller, Esq. of Whitehaven, to obtain observations on the fall of rain, and on the minimum temperature in winter, at several stations in the Lake District of England. 50  
 These observations have been communicated to the Royal Society, and the results have been published in "Reports on the Meteorology of the Lake District," by Mr. Miller.
6. To Dr. W. B. Carpenter, for the execution of drawings of Foraminifera collected on the Australian coast during the Surveying Expedition of Her Majesty's Ship 'Fly' ..... 25  
 These drawings have been deposited at the Royal Society, and have served, together with similar drawings procured by grants in 1852 and 1854, as data from which Dr. Carpenter has drawn up an important mono-

graph on this class of animals, which will be published in the forthcoming volume of the Philosophical Transactions.

7. To Leonard Horner, Esq., for the analysis of specimens of the water of the Nile, and of the soil at different depths in the valley of the Nile, which had been procured by the aid of a grant from the Donation Fund of the Royal Society .. £50

The results of this analysis have been published in the Philosophical Transactions.

8. To William Hopkins, Esq. of Cambridge, for investigations on the effect of pressure on the temperature of fusion of certain substances. .... 250

These important experiments, in which Mr. Hopkins has been assisted by Messrs. Fairbairn and Joule of Manchester, are still in progress. A report of the results hitherto obtained is expected to be presented to the Royal Society at its next session.

9. To Dr. Miller, Mr. Gassiot, and Colonel Sabine, representing the Kew Committee of the British Association, for the construction and verification of standard meteorological instruments ..... 150

By the aid of this and of a subsequent grant of equal amount in 1852, the Kew Committee have been enabled to meet satisfactorily the extensive applications which have been made to them by the Governments of our own country and of the United States, to provide and verify meteorological instruments required for the marine meteorological researches undertaken by those governments with a view to the interests of trade and navigation, as well as to those of general science.

10. To Professor Owen, to defray the cost of drawings of undescribed and unfigured fossils from South America and Australia ..... 100

These drawings have been executed, and are seventy-two in number.

Total sum appropriated in 1851.... £1000

*C. Appropriation of the Government Grant of £1000 in 1852.*

1. To Professor William Thomson of Glasgow, for experimental researches in several branches of electrical science. . . . . £50

This grant, as well as a subsequent one of £50 in 1853, was designed to assist in furnishing apparatus for various electrical researches in which Professor Thomson was engaged; the results, as far as they have yet been obtained, have been communicated to the Royal Societies of London and of Edinburgh, and published in their Transactions and in other scientific journals. The researches are still in progress.

2. To Dr. Tyndall, for experimental researches on the diathermic and conductive capacities of crystalline and other bodies. . . . . 50

This money has been expended in providing apparatus for the experimental researches referred to. The results, so far as they have been yet obtained, have been published in papers in the Philosophical Transactions, and the researches are still in progress.

3. To Professor Williamson, for experimental investigations into the law of the chemical action of masses. . . . . 100

The experiments are in progress, and the results hitherto obtained will shortly be communicated to the Royal Society.

4. To Mr. Joule of Manchester, for experiments on the effects of magnetism on the dimensions of iron and steel bars. . . . . 30

These experiments are still in progress.

5. To Mr. John A. Dale, of Balliol College, Oxford, for experiments on the relation of metals with each other, and with liquids in the voltaic circuit. . . . . 50

These experiments are still in progress.

6. To Professor Owen, for obtaining anatomical drawings of undescribed existing and extinct animals . . . . . 100

Drawings, forty-three in number, have been executed, and part of the grant yet remains to be similarly applied.

7. To Dr. Miller, Mr. Gassiot, and Col. Sabine, for the construction and verification of standard meteorological instruments ..... £150  
 See note to a similar appropriation in 1851, No. 9.
8. To Henry Gray, Esq., for investigations concerning the spleen ..... 100  
 The results of these investigations are published in an Essay on the Spleen, for which the triennial Astley Cooper Prize of £300 was awarded in 1853.
9. To Professor Beale, for investigations into the chemistry of morbid products..... 50  
 This investigation is still in progress.
10. To Dr. Carpenter, for the execution of drawings of Foraminifera ..... 25  
 See note to a similar appropriation in 1851, No. 6.
11. For the publication of Vol. II. of the Markree Catalogue of Ecliptic Stars ..... 130  
 Vol. II. has been published, and the edition of 500 copies disposed of as in the case of Vol. I. (1850, No. 2.)
12. To Professor William Thomson and Mr. Joule, for experiments on the thermal effects experienced by fluids in passing through small apertures ..... 100  
 The experiments referred to in this and in subsequent grants of £100 in 1853, and of £200 in 1854, are still in progress. A memoir describing part of the results obtained, has been presented to the Royal Society, and printed in the Philosophical Transactions.
13. To Dr. Frankland, for investigations into organo-metallic compounds ..... 65  
 The results of this investigation have been communicated to the Royal Society in a memoir which will appear in the forthcoming volume of the Philosophical Transactions.
- Total sum appropriated in 1852. . . . £1000

*D. Appropriation of the Government Grant of £1000 in 1853.*

1. To Dr. Waller, for investigating the results of the section of nerves..... £100

An interim report of the progress of this investigation has been received by the Royal Society.

2. To Dr. James Thomson, C.E. of Glasgow, and Mr. Fairbairn of Manchester, for experiments on the friction of discs revolving in water, for the purpose of obtaining data required in calculations relating to turbine water-wheels and centrifugal pumps ..... 50

The results already obtained have been communicated to the Royal Society, and preparations have been made for renewing the experiments on a more extended scale.

3. To Captain Lefroy, for the expenses of preparing for publication observations on the Aurora Borealis made in North America ..... 20

The observations have been in great measure prepared for publication.

4. To Warren De la Rue, Esq., for mounting the Huygenian object-glass of 123 feet focal length..... 250

This, with an appropriation of equal amount in 1854, was designed to meet an application made to the Royal Society by M. Struve of St. Petersburg, to compare the appearance of Saturn as shown by the Huygenian lens referred to with that of the planet as seen in telescopes of modern date; in consequence of Huygens's representation of the ring not according with its appearance as now observed. Difficulties have been met with in carrying out this object in the method first proposed, which have occasioned delay; and the subject now stands for reconsideration.

5. To Professor William Thomson of Glasgow, for experiments on the thermal effects of electric currents in unequally heated conductors..... 50

See note to a similar appropriation in 1852, No. 1.

6. To Professor William Thomson and Mr. Joule, for continuing the experiments on the thermal effects experienced by fluids in passing through small apertures £100 0 0

See note to a similar appropriation in 1852,  
No. 12.

7. To Dr. Marcet, for expenses connected with his researches on the excretions of man and animals. . . . 50 0 0

The results were communicated in a paper presented to the Royal Society, and printed in the Philosophical Transactions.

Total sum appropriated in 1853. . . . £620 0 0

Balance to credit in 1854 . . . . . 480 10 11

Grant from Government . . . . . £1000 0 0

Replaced by Dr. Stenhouse . . . . . 100 0 0

Repaid from the Catton grant . . . . . 0 7 0

Repaid from the Ecliptic Stars' grant . . . . . 0 3 11

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£1100 10 11 £1100 10 11

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E. *Appropriation of the Government Grant of £1000 in 1854, and of a balance carried from the preceding year of £480 10s. 11d.*

1. To Robert Mallet, Esq., C.E., Dublin, for experiments on earthquake waves. . . . . £150

The apparatus for these experiments was prepared by means of a grant from the British Association. The experiments are proposed to be made at Holyhead, when a fitting time is arrived in the progress of the harbour works at that station.

2. To Dr. Marcet, for a continuation of his researches on the excretions of man and animals . . . . . 50

See note to a similar appropriation in 1853, No. 7.

3. To Professor Eaton Hodgkinson, for experiments on the strength of materials . . . . . 100

This appropriation has been augmented by a gift of £200 from Robert Stephenson, Esq., C.E. The experiments are in progress.



4. To Dr. Tyndall, for experimental researches in heat and magnetism ..... £100

The results of a part of these researches have been presented to the Royal Society, and will be published in the forthcoming volume of the Philosophical Transactions.

5. To Dr. Woods of Parsonstown in Ireland, for experimental researches on the heat developed in the oxidation of certain metals ..... 20

The experiments are in progress, and an interim report has been presented to the Royal Society.

6. To Professor William Thomson of Glasgow and Mr. Joule of Manchester, for experimental researches on fluids in motion, and on the thermal effects experienced by fluids in passing through small apertures ..... 200

See note to an appropriation for the same purpose in 1852, No. 12, and in 1853, No. 6. A memoir containing the results of these researches, so far as they have yet been completed, has been presented to the Royal Society, and printed in the Philosophical Transactions.

7. To Warren De la Rue, Esq., for mounting the Huygenian object-glass ..... 250

See note to a similar appropriation in 1853, No. 4.

8. To T. H. Huxley, Esq., for the publication of his zoological researches ..... 300

Mr. Huxley was employed under the orders of the Admiralty in a Surveying Expedition under Captain Owen Stanley, during which these researches were made. On his return Mr. Huxley contributed two memoirs to the Royal Society, for which the Royal Medal was awarded him. They were printed in the Philosophical Transactions. The publication of the whole of his researches has been strongly recommended by the highest authorities in this branch of science, and will be accomplished by this grant. The work itself will be the property of Her Majesty's Government, and will

be distributed in a manner analogous to that of the Markree and Armagh Star-Catalogues.

9. For the publication of Vol. III. of the Markree Catalogue of Ecliptic Stars . . . . . £132 1 7

Vol. III. has been published, and the edition disposed of as already described in the cases of Vols. I. and II.

10. To Dr. W. B. Carpenter, for completing the illustrations of typical forms of Foraminifera . . . . . 50 0 0

See note to an appropriation for the same purpose in 1851, No. 6.

11. To Nevil Maskelyne, Esq., of Oxford, for chemical researches on the solid oils and waxes of the vegetable kingdom . . . . . 100 0 0

These researches are in progress.

12. To Dr. Pavy, for continuing experimental researches on the physiology of the blood, of which a part has been recently communicated to the Royal Society . 50 0 0

The researches are in progress.

13. To Professor William Thomson, for experiments on the thermal effects of electric currents in unequally heated conductors . . . . . 50 0 0

The experiments are in progress.

Total sum appropriated in 1854. . . . . £1552 1 7

*Total Grants and Appropriations.*

| GRANTS.   |                    |    |    | APPROPRIATIONS. |                  |      |     |
|---|--------------------|----|----|-----------------|------------------|------|-----|
|   | £                  | s. | d. |                 | £                | s.   | d.  |
| 1850.....   | 1000               | 0  | 0  | ....            | 1850.....        | 1000 | 0 0 |
| 1851.....   | 1000               | 0  | 0  | ....            | 1851.....        | 1000 | 0 0 |
| 1852.....   | 1000               | 0  | 0  | ....            | 1852.....        | 1000 | 0 0 |
| 1853.....   | 1000               | 0  | 0  | ....            | 1853.....        | 620  | 0 0 |
| 1854.....   | 1000               | 0  | 0  | ....            | 1854.....        | 1552 | 1 7 |
| Replaced by Dr. Sten-<br>house .....                              | } 100              | 0  | 0  |                 |                  |      |     |
| Small balance returned<br>from the Markree<br>and Catton grants.. |                    |    |    |                 |                  |      |     |
|   |                    |    |    |                 |                  |      |     |
| Totals.....   | <u>£5100 10 11</u> |    |    | .....           | <u>£5172 1 7</u> |      |     |

The appropriations exceed the sums placed at the disposal of the Royal Society by £71 10s. 8d.; which it was the intention of the Council to have provided out of the expected grant of £1000 in 1855.

EDWARD SABINE,  
*V.P. and Treasurer R.S.*

Somerset House, July 20, 1855.